



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

So, also, the imperfections of evidence as to the motives and purposes inspiring the action will become more discernible in proportion to the fulness of our conception of what the evidence should be to distinguish between action from the one or the other of possible motives. The necessary result will be a less disposition to reach conclusions upon imperfect grounds. So, also, there will be a less inclination to misapply evidence; for, several constructions being definitely in mind, the indices of the one motive are less liable to be mistaken for the indices of another.

The total outcome is greater care in ascertaining the facts, and greater discrimination and caution in drawing conclusions. I am confident, therefore, that the general application of this method to the affairs of social and civic life would go far to remove those misunderstandings, misjudgments, and misrepresentations which constitute so pervasive an evil in our social and our political atmospheres, the source of immeasurable suffering to the best and most sensitive souls. The misobservations, the misstatements, the misinterpretations, of life may cause less gross suffering than some other evils; but they, being more universal and more subtle, pain. The remedy lies, indeed, partly in charity, but more largely in correct intellectual habits, in a predominant, ever-present disposition to see things as they are, and to judge them in the full light of an unbiased weighing of evidence applied to all possible constructions, accompanied by a withholding of judgment when the evidence is insufficient to justify conclusions.

I believe that one of the greatest moral reforms that lies immediately before us consists in the general introduction into social and civic life of that habit of mental procedure which is known in investigation as the method of multiple working hypotheses.

#### AMONG THE PUBLISHERS.

SPEAKING of Professor Carl Lummholtz's "Among Cannibals," the *Athenæum* says that "the volume is not only agreeable reading throughout, but is full of curious information."

— In the *Jenness Miller Magazine* for February is a physical culture article by Miss Jenness. "The History of St. Valentine's Day," by Laura Giddings, suggests a new form of entertainment for modern society.

— In the *Electrical World* of Jan. 11 was an illustrated article descriptive of the new and handsomely equipped offices of that enterprising paper, which occupy the better part of a floor in the recently finished Times Building on Park Row, this city,—one of the finest office buildings in the world.

— The brother of President Harrison's private secretary, Mr. A. J. Halford, has written for the March number of the Philadelphia *Ladies' Home Journal* an article on "Mrs. Harrison's Daily Life in the White House," prepared with the consent and assistance of Mrs. Harrison.

— It is thought that the death of Mr. Frank Marshall will cause no delay in the publication of the eighth and final volume of the "Henry Irving Shakespeare." Mr. Marshall's arduous labors on this work were the indirect cause of his illness. The eighth volume, by the way, will contain "Hamlet."

— One of the gravest and most important problems that confront the American people relates to the hundreds of thousands of immigrants who pour into this country every year. In a timely book, soon to be published by the Scribners, Richmond M. Smith, professor of political economy in Columbia College, discusses the historical, statistical, economic, ethnic, and social aspects of this interesting question.

#### JUST PUBLISHED.

348 Pages, 12mo, Cloth, - - \$1.50

### Electric Light Installations

AND THE

### Management of Accumulators.

#### A PRACTICAL HANDBOOK

BY

Sir David Salomons, Bart. M. A., Asso. Inst. C. E.

Member of Council of the Society of Telegraph Engineers and Electricians. Member of the American Institute of Electrical Engineers.

FIFTH EDITION, REVISED AND ENLARGED.

With 99 Illustrations.

D. VAN NOSTRAND COMPANY,  
PUBLISHERS,

23 Murray and 27 Warren Sts., New York.

### Important Announcement.

To CHEMISTS,  
MANUFACTURERS  
and ENGINEERS.

CHEMICAL TECHNOLOGY; or,  
CHEMISTRY IN ITS APPLICATION TO ARTS AND MANUFACTURES. Edited by Charles Edward Groves, F.R.C., and William Thorp, B.Sc.

VOL. I. NOW READY.

### FUEL AND ITS APPLICATIONS,

By E. J. Mills, D.Sc., F.R.S., and F. J. Rowan, C.E., assisted by others, including Mr. F. P. Dewey, of the Smithsonian Institute, Washington, D.C.

7 Plates and 607 other illustrations.  
Royal octavo pages xx + 802. Half-Morocco, \$9. Cloth, \$7.50.

MAILED POSTPAID ON RECEIPT OF PRICE.

N. D. C. Hodges, 47 Lafayette Place,  
NEW YORK.

JUST PUBLISHED.

POPULAR MANUAL OF VISIBLE SPEECH AND VOCAL PHYSIOLOGY.

For use in Colleges and Normal Schools. Price 50 cents. Sent free by post by

N. D. C. HODGES, 47 Lafayette Place, New York.

#### NOW IN PRESS.

### "FORT ANCIENT."

A large work of 200 pp. with 35 full-page illustrations on the greatest of all Ohio Valley Earthworks, and similar enclosures.

By Warren K. Moorehead, assisted by scientists from Washington.

It is compiled from a careful survey and is correct in all details.

The entire summer was spent in surveying, excavating, photographing and preparing this work.

Fort Ancient consists of 13,712.2 feet of embankment, and in size, state of preservation and importance as an aboriginal fortification is unequalled in this country.

Price of book, \$2.00.

It will be ready for sale Jan. 10, 1890.

Illustrated prospectus mailed free to any address. Send for one.

WARREN K. MOOREHEAD,  
Smithsonian Institution, Washington, D.C.  
Published by Robt. Clarke & Co., Cincinnati.

Correspondence solicited with parties seeking publishers for scientific books.

N. D. C. HODGES,  
Publisher of Science,  
47 Lafayette Place,  
New York.

HEAVEN AND HELL. By EMANUEL SWEDENBORG. 416 pages, paper cover. Mailed pre-paid for 14 Cents in stamps by the American Swedenborg Printing and Publishing Society, 20 Cooper Union, N. Y. City.

#### Old and Rare Books.

Back numbers Atlantic, Century, Harper, and Scribner, to cents per copy, other magazines equally low. Send for a catalogue.

A. S. CLARK,  
Bookseller,  
34 Park Row, New York City.

BACK NUMBERS and complete sets of leading Magazines. Rates low. AM. MAG. EXCHANGE, Schoharie, N.Y.

—"Laugh and Learn" is the title of a book of nursery lessons and nursery games, by Jennett Humphreys, with many illustrations. The union of simple instruction and amusement is happily carried out. The book will be published by Scribner & Welford.

—Under the title of "The Religious Aspect of Evolution," Dr. James McCosh's series of lectures delivered in 1887 at the Theological Seminary of the Diocese of Ohio and Kenyon College will be published by the Scribners. The chapter on "Final Cause" is entirely new.

—Professor Frederick L. Ritter of Vassar has revised and enlarged his popular history of "Music in America," and the new edition will be brought out soon by the Scribners. The author has continued to date the history of the leading musical organizations and of the opera in different cities, adding about a hundred pages to the book.

—Two new volumes of "The Uncollected Writings of Thomas De Quincey," with a preface and annotations by James Hogg, are announced by Scribner & Welford. The volumes contain many entertaining essays; "Shakespeare's Text," "How to Write English," "The Casuistry of Duelling," and "The Love-Charms," being a few of the titles.

—As a memorial of a distinguished administrator, and to further the cause of imperial federation, Mr. Stanley Lane-Poole has edited the papers of Sir George Bowen, and they will be published immediately in London and New York by Longmans, Green, & Co. In one of Sir George's earlier letters there is a pleasant glimpse of Washington society during Grant's administration.

—The "Truth Seeker Annual and Freethinkers' Almanac" for 1890 (28 Lafayette Place, New York) contains, among numerous other interesting articles, an account of the inauguration of the Bruno statue in Rome, by T. B. Wakeman; some investigations into the phenomena of Spiritualism, by E. M. Macdonald; and a history of the progress of free thought in the United States during 1889. The book is handsomely illustrated.

—Our readers will learn with interest that the Scribners will issue this month the third and fourth volumes of Henry Adams's "History of the United States." The first two volumes treated of Jefferson's first administration, — 1801 to 1805; the forthcoming two volumes relate to the great Democratic leader's second term of office, — 1805 to 1809. The new volumes are said to contain considerable new material bearing upon the Burr conspiracy and other events of the period.

—The January number of the *American Naturalist* is at hand. It contains, beside another instalment of E. L. Sturtevant's treatise on the "History of Garden Vegetables," an illustrated article by J. W. Fewkes, on the habit of certain sea-urchins of boring holes in the rocks to which they are attached, and a suggestive article by R. E. C. Stearns on "The Effects of Musical Sounds upon Animals." We note the fact that this number appears almost on time; and as the present publishers, the Messrs. Ferris Brothers, of Sixth and Arch Streets, Philadelphia, have been sending out the numbers at the rate of two a month since they assumed control, it is only fair to infer that the magazine will henceforth appear on its nominal date. There are still three numbers to be furnished of the year 1889; but these will be printed and sent out as rapidly as possible, and in the mean time the current issues for 1890 will proceed with regularity.

—The Publication Agency of the Johns Hopkins University, Baltimore, has just issued "The Beginnings of American Nationality," by President Small of Colby University, commencing the series for 1890 of "Studies in Historical and Political Science;" also "The Needs of Self-Supporting Women," by Miss Clare de Graffenried of the Department of Labor, Washington, D.C., being No. 1 (for 1890) of the "Notes Supplementary to the Studies in Historical and Political Science." It is proposed, also, to collect and publish, in a limited edition, the principal literary essays and studies of Professor Gildersleeve. They will make a volume of between three hundred and four

hundred pages. The following is a list of the titles of the essays: 1. "Limits of Culture;" 2. "Classics and Colleges;" 3. "University Work in America;" 4. "Grammar and Aesthetics;" 5. "Legend of Venus;" 6. "Xanthippe and Socrates;" 7. "Apollonius of Tyana;" 8. "Lucian;" 9. "The Emperor Julian;" 10. "Platen's Poems;" 11. "Maximilian, Emperor of Mexico;" 12. "Occasional Addresses."

—Of the contents of *The Chautauquan* for February we note "The Politics which Made and Unmade Rome," by President C. K. Adams, LL.D.; "The Politics of Mediæval Italy," by Professor Philip Van Ness Myers, A.M.; "The Archæological Club at Rome," by James A. Harrison, LL.D., Lit.D.; "Life in Mediæval Italy," by the Rev. Alfred J. Church, M.A.; "Economic Internationalism," by Richard T. Ely, Ph.D.; "Moral Teachings of Science," by Arabella B. Buckley; "The Works of the Waves," by Professor N. S. Shaler; "Traits of Human Nature," by J. M. Buckley, LL.D.; "Modern English Politics and Society," by J. Ranken Towse; "How Sickness was prevented at Johnstown," by Dr. George Groff; "Trusts and How to Deal with Them," by George Gunton; and "Divorce in the United States," by Oliver Cornell.

#### LETTERS TO THE EDITOR.

\*.\* Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

The editor will be glad to publish any queries consonant with the character of the journal.

#### Physical Fields.

It seems probable that the articles which have appeared in this journal on this subject — one by A. E. Dolbear on Dec. 27, and the other by N. W. Perry on Jan. 24 — are the most important that have been recently written as bearing especially upon present theories in meteorology. It is of the utmost consequence that in this complex science we lay a sure foundation of fact, and never be tempted to speculations unless supported in the main by observations. It is not my purpose, even if I were able, to discuss the questions at issue in these papers, but I wish to present what seems to me may prove a most important field for research, hoping that others may take up the matter and shed light upon the problem.

The "thermal field" is probably the easiest to comprehend. We may conceive a white-hot cannon-ball in space. It radiates its heat equally in all directions, and is rapidly cooled. We may measure the distance to which these radiations extend. If these radiations be intercepted by any body, it in turn will be heated, and send back its radiations to the ball; and these exchanges will continue till a thermal equilibrium be established. All orthodox theories in meteorology regard the sun as a hot ball in space; that its rays impinge upon the earth, passing through the atmosphere without heating it; that this heated earth sets up convection currents in the atmosphere; and, finally, that all our winds and storms are primarily induced by these convection currents. I believe the time is not far distant when this theory will appear puerile in the extreme, and it will be acknowledged that the actions produced in any locality through the direct heat agency of the sun must be greatest just at the time when there are no storms, and all of them combined will not account for a hundredth part of the energy developed.

The "electric field" is the one I wish to specially notice. Mr. Perry, speaking of electrification, says, "It is a condition which is dual in its character. The negative exists because of the existence of the positive, not because of propagation from one to another. . . . We must regard electricity as motion; electrification, one kind of stress which is capable of producing electrical vibrations; magnetism may be another." Granting the existence of such a dual condition, without at present going into the question of how it can be energized or brought about, I wish to inquire what may be told or inferred as to the action of individual electrified particles in either the positive or negative portion of such a dual condition, let us say, in the atmosphere.

Take, for example, the electric arc. As I understand it, particles of carbon are continuously carried from what is called